

Notice of Allowability

Application No.

10/682,286

Examiner

Scott Bushey

Applicant(s)

BORTKEVITCH ET AL

Art Unit

1724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to applicant's election as detailed in the Interview Summary.
2. ☒ The allowed claim(s) is/are 1.
3. ☒ The drawings filed on 10 October 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

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EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. William O. Wooden, Pro Se inventor on March 16, 2005.

The application has been amended as follows:

In the Claims:

Claim 1. (currently amended) Apparatus for producing a micro-dispersed gas-liquid mixture, comprising a cylindrical housing having a cylindrical surface with bottom and top covers, which in turn incorporate:

a gas-liquid ejector unit consisting of said bottom cover of said cylindrical housing, a first part of ~~[[a]]~~ said cylindrical surface of said housing, an inlet for gas connected to a gas injection line, an inlet nozzle for liquid connected to an injection liquid line and a first partition of said cylindrical housing, said inlet nozzle having has both outside and inner surfaces to adapt ~~[[the]]~~ a conical orifice of said first partition to provide a required flow-rate of an ejected gas through said gas inlet;

a cavitation unit communicating through said first partition with said gas-liquid ejector unit, said cavitation unit comprising said first partition, a second part of said cylindrical surface of said housing, a hollow cylindrical cavitation chamber having at least one tangential inlet allowing a gas-liquid mixture from said gas-liquid ejector unit to flow inside the hollow

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cylindrical cavitation chamber and a second partition having an orifice connected to [[the to]]
said hollow cylindrical cavitation chamber;

a jet dispersing unit communicating through said second partition orifice with said
cavitation unit comprising said second partition, a third part of said cylindrical surface of said
cylindrical housing, a hollow cylindrical dispersing chamber attached to said second partition,
said top cover of said cylindrical housing and an outlet connected to an injection well, said
hollow cylindrical dispersing chamber includes at least one outlet channel and a hollow dip at the
bottom of said hollow cylindrical dispersing chamber, said outlet channel communicates with
said outlet connected to said injection well.

Claims 2-4 (cancelled).

REASONS FOR ALLOWANCE

2. The following is an examiner's statement of reasons for allowance:

The prior art of record fails to disclose or suggest an apparatus for producing a micro-dispersed gas-liquid mixture, including a cylindrical housing with bottom and top covers, wherein the housing incorporates the specifically claimed gas-liquid ejector, cavitation unit and jet dispersing unit in that order, the ejector and cavitation unit being separated by a first partition and the cavitation unit and the jet dispersing unit being separated by a second partition.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

CONCLUSION

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3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Bushey whose telephone number is (571) 272-1153. The examiner can normally be reached on Monday-Thursday 6:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571) 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Scott Bushey
Primary Examiner
Art Unit 1724

csb
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